

NEW SPECIES OF THE GENUS *VILLA* (*ANTHRAX*).

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In my work on the Dipterous fauna of New Jersey and New England, two species of this genus have been the source of considerable misgivings. One has been associated with *Anthrax morio* as a possible variation. The other was determined by the late D. W. Coquillett as *Anthrax lepidota* O. S. The former is quite widely distributed, while the latter, as far as known, is confined to "pine barrens" of New Jersey. The following diagnoses are given, pending further studies and figures of our eastern species.

Villa webberi sp. nov.

♂ ♀. Face and front black, with blackish pile and sparse yellowish tomentum, antennæ black, the style about as long as the three joints taken together. Thorax and scutellum black, pile black, longer and more dense on the pleura, brown in front and whitish on the posterior angles. Abdomen black, pile blackish, white on the sides of the first, second and sixth segments. A sparse yellowish tomentum (easily denuded) is present on most of the segments, especially along the posterior margins. Legs yellowish, front and middle femora, except the tips, and all of the tarsi, dark brown, tomentum yellowish, spines black. Halteres black, tips of the knobs whitish. Wings about half black and half hyaline. The irregular dividing line crossing the following cells: marginal just before the tip of the first vein, near the basal fourth of the first submarginal, and basal third of the first posterior, middle of the discal, basal angle of the third posterior, basal fourth of the fourth posterior, middle of the anal and basal third of the axillary cell. Length of holotype 6 mm., allotype 9 mm., paratypes vary from 5 to 10 mm.

Twenty-one specimens. Holotype, Lunenburg, Mass., June 3, 1914 (R. T. Webber); allotype, Great Barrington, Mass., June 16, 1915, and four paratypes, Mt. Ascutney, Vt., July 11, 1908, Bennington, Vt., June 21, 1915, Brookline, Mass., June 17, 1918, and Darien, Conn., June 10, 1912 (C. W. Johnson), in the collection of the Boston Society of Natural History. The other paratypes, Brookline, Mass., June 17 (C. W. J.), Lunenburg, Mass., June 5 to 25

(Webber), Montreal, Can., June 11 (Chagnon), Ottawa, June 14 (Bro. Germain), Canada and Kentucky (Mus. Comp. Zoöl.), and near Lander, Wyo., June (Roy Moodie) are in the collections of the Museum of Comparative Zoölogy, McGill Univ., Ottawa Museum, Gipsy Moth Laboratory and the author.

Readily separated from *A. morio* by the less amount of black, which in *morio* covers about two-third of the wing, filling nearly all of the anal and axillary cells, and a slightly larger proportion of the other cells. In the color of the wings it resembles more closely *A. bigradata* Loew and *A. edwardsi* Coq., but lacks the light colored pile characteristic of those species.

Villa lepidotoides sp. nov.

Anthrax lepidota Johnson (*non* Osten Sacken) Smith's Insects of N. J. Ann. Rept., N. J. State Museum, 1909 (1910), p. 746.

♂. Head black, with sparse yellow tomentum and black hairs, antennæ black. Thorax and scutellum black, with golden yellow tomentum, on the sides between the humeri and wings. The tomentum is longer and whitish, on the pleura yellow. Abdomen black, first and base of the second and fourth segments broadly banded with white; tomentum, the extreme posterior edges of which are yellowish, the last two segments with yellow tomentum and black hairs. Legs black, with sparse yellowish tomentum, the rows of spines on the posterior tibiæ conspicuous, on the front and middle tibiæ absent. Halteres brown with a yellowish-white knob. Wings hyaline with about one-third of the anterior dark brown, the line between the brown and hyaline crossing the following cells: near the extreme tips of the costal, outer two-thirds of the marginal, near the base of the first submarginal and first posterior (forming small squares of brown at the base of each), basal fourth of the discal and fourth posterior and middle of the anal cell. This leaves all of the second submarginal, the second and third posterior and the axillary cell hyaline. A subhyaline spot is present near the end of the second basal cell. Length, 5 mm. One specimen, collected by the late Erich Daecke, at Iona, Gloucester Co., N. J., June 16, 1902. Type in the author's collection.

Similar to *A. lepidota* O. S. from Mexico and Southern California, but readily separated by the yellow tomentum of the thorax and scutellum and the three bands of whitish tomentum on the abdo-

men. The venation also differs, the veins forming the outer portion of the submarginal cell are less sinuous, the anterior branch of the third vein reaching the margin at the tip of the wing and not before the tip. The fifth vein forming the posterior margin of the discal cell is also less curved. The brown extends slightly further into the first and fourth posterior cells giving the margin a trilobed appearance.

***Villa bigradata* (Loew).**

Anthrax bigradata Loew, Cent., viii, 37, 1869.

A specimen from Muskeget Island, Mass., June 18, 1913, collected by Dr. G. M. Allen, and a specimen from Provincetown, Mass., June 13 (Webber), can only be referred to this West Indian species. Coquillett records it from California. This distribution is interesting, though not unusual as several members of this family have a similar or much wider distribution.

SYNCHRONOUS MOVEMENTS IN *VANESSA ANTIOPA*
LARVÆ, WITH NOTES ON THE ATTRACTION OF
CERTAIN MALE LEPIDOPTERA BY THE FEMALES
OF THEIR OWN SPECIES.

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About the middle of last April, while taking my regular Sunday morning walk along a favorite woodland path, I saw a *Vanessa antiopa* depositing her eggs on a willow sapling. I broke off the twig with the eggs attached, carried them home and placed them in a breeding cage. The larvæ appeared in 17 to 18 days, went through the regular course of feeding and moulting and the latter part of May developed into a fine brood of over one hundred full-grown caterpillars. One evening a few days before pupation began, the cages (the colony had been divided and now occupied two cages) were brought out to the light for the purpose of putting in fresh food for the occupants, one cage being set on top of the other. The cages were partially filled with small willow branches, and the caterpillars were scattered all over the cages, some on the top and sides and others on the leaves and branches.